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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,779

03/29/2004

Woo-Seog Park

2060-3-60

5006

35884

7590

09/04/2008

LEE, HONG, DEGERMAN, KANG & SCHMADEKA

660 S. FIGUEROA STREET

Suite 2300

LOS ANGELES, CA 90017

EXAMINER

DAGLAWI, AMAR A

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

09/04/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/812,779

**Applicant(s)**

PARK, WOO-SEO

**Examiner**

Amar Daglawi

**Art Unit**

2618

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 35-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/14/2008 has been entered.

***Response to Amendment***

2. Claims 1-34 are cancelled. Claims 35-46 are new and pending.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 35-39, and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. With respect to claim 35, Applicant fails to clearly point out whether the amplifier external to the audio processor in the second state is the same amplifier external to the audio processor in the third state or whether it is a different external amplifier as recited in claim 1.

6. All dependent claims from claim 35 are rejected for the same reason.

7.

8. With respect to claim 42, applicant needs to clarify whether the second switch which routes ring tone signals by the mobile communication system in the third state is the same second switch in the second state that routes ring tone signals generated by the mobile communication system as recited in claim 41.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 35-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted background art in view of Saiki et al (US 6,259,935 B1).

With respect to claim 35, Applicant's admitted background art teaches A method of controlling sound quality produced by a multifunction device (MFD) capable of producing both sound and vibration in response to receiving electronic signals, wherein the MFD is embedded in a mobile communication system, the method comprising:

Determining whether the mobile communication system is in a first, second or third state (Fig.2, par [0012-0017]); [The processor unit determines the state either voice, ring or vibration].

in the first state, amplifying audio signals received by the mobile communication system in an audio processor (Fig.2, par [0012-0017]) **but fails to teach filtering the amplified audio signals to remove low frequency resonance components in the audio signals that fall below a first threshold, and providing the amplified, filtered audio signals to the MFD;**

in the second state, amplifying ring tone signals generated by the mobile communication system in an amplifier external to the audio processor (Fig.2, par [0012-0017]) **but fails to teach filtering the amplified audio signals to remove low frequency resonance components in the audio signals that fall below a first threshold, and providing the amplified, filtered audio signals to the MFD to produce a ring tone;** and

in the third state, amplifying a signal received by the mobile communication system in an amplifier external to the audio processor and providing the amplified, non-filtered signal to the MFD to produce a vibration (Fig.2, par [0012-0017]).

In analogous art Saiki teaches filtering the amplified audio signals using high pass filter. The high pass filter removes low frequency resonance components (please see Fig.7, col.11, lines 15-67, col.12, lines 1-51).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of the mobile terminal adopting the MFD to incorporate a high pass filter so as to cut the low frequency components and achieve an improved quality of the voice or ring.

With respect to claim 36, applicant's admitted background art in view of Saiki further teaches the first, second, third states are set by a user of the mobile communication terminal (background art, Fig.2, par [0012-0017]) [the processor unit sets the state either voice, ring or vibration].

With respect to claim 37, applicant's admitted background art in view of Saiki further teaches the first state an audio voice is generated (background art, Fig.2, par [0012-0013]).

With respect to claim 38, applicant's admitted background art further teaches in the second state a user sets the MFD to generate a ring tone (background art, Fig.2, par [0012-0016]).

With respect to claim 39, applicant's admitted background further teaches art further teaches in the third state a user sets the MFD to vibrate (background art, Fig.2, par [0016]).

With respect to claim 40, applicant's admitted background art teaches A apparatus for controlling sound quality produced by a multifunction device (MFD) capable of producing both sound and vibration in response to receiving electronic

signals, wherein the MFD is embedded in a mobile communication system, the apparatus comprising:

a processor responsive to a logic signal for determining whether the mobile communication system is in a first, second or third state (Fig.2, par [0012-0017]); [The processor unit determines the state either voice, ring or vibration].

However, applicant's admitted background art fails to teach a first switch for routing audio signals received by the mobile communication system and amplified by an audio processor to a filter for filtering the amplified audio signals to remove low frequency resonance components in the audio signals that fall below a first threshold, in the first state, prior to the amplified filtered audio signals are provided to the MFD which is further taught in analogous art by Saiki (See Fig.7, col.11, lines 15-67, col.12, lines 1-51).

In analogous art Saiki teaches filtering the amplified audio signals using high pass filter. The high pass filter removes low frequency resonance components (please see Fig.7, col.11, lines 15-67, col.12, lines 1-51).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of the mobile terminal adopting the MFD to incorporate a high pass filter so as to cut the low frequency components and achieve an improved quality of the voice or ring.

With respect to claim 41, applicant's admitted background art in view of Saiki further teaches a second switch, wherein in the second state, the second switch routes

ring tone signals generated by the mobile communication system to an amplifier external to the audio processor, prior to the first switch routing the amplified ring tone signals to the filter for filtering the amplified ring tone signals to remove low frequency resonance components in the ring tone signals that fall below the first threshold, and providing the amplified, filtered ring tone signals to the MFD to produce a ring tone (Saiki, Fig.7, col.11, lines 15-67, col.12, lines 1-51).

With respect to claim 42, applicant's admitted background art in view of Saiki further teaches a second switch, wherein in the third state, the second switch routes ring tone signals generated by the mobile communication system to an amplifier external to the audio processor to amplify the ring tone signals to generate a vibration, without the first switch routing the amplified ring tone signals to the filter, such that the amplified ring tone signals maintain low frequency resonance components to produce a vibration in the MFD (Saiki, Fig.7, col.11, lines 15-67, col.12, lines 1-51).

With respect to claim 43, applicant's admitted background art in view of Saiki further teaches the first, second, third states are set by a user of the mobile communication terminal (background art, Fig.2, par [0012-0017]) [the processor unit sets the state either voice, ring or vibration].

With respect to claim 44, applicant's admitted background art in view of Saiki further teaches the first state an audio voice is generated (background art, Fig.2, par [0012-0013]).



With respect to claim 45, applicant's admitted background art further teaches in the second state a user sets the MFD to generate a ring tone (background art, Fig.2, par [0012-0016]).

With respect to claim 46, applicant's admitted background further teaches art further teaches in the third state a user sets the MFD to vibrate (background art, Fig.2, par [0016]).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amar Daglawi whose telephone number is 571-270-1221. The examiner can normally be reached on Monday- Friday (7:30 AM- 5:00 AM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuwen Pan can be reached on 571-272-7855. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amar Daglawi/  
Examiner, Art Unit 2618

/Yuwen Pan/  
Primary Examiner, Art Unit 2618

12.

13.

